REMARKS

The Official Action of September 25, 2006 rejects claims 1, 2, 5, 6, 8-13, 24, 25 and 27 under 35 USC §103(a) as unpatentable over Hämäläinen in view of US patent 6,385,437, Park et al (hereinafter Park).

In particular, the Office asserts that Hämäläinen discloses a system which corresponds to the action recited in claim 1 with respect to changing the operation of the mobile station into the combined slotted communication mode and measurement mode for preparing an interfrequency handover, if at least a criterion specifying that a quality of a downlink signal relating to a channel on which the communication takes place between the mobile station and a mobile communication system in the continuous communication mode is worse than a quality represented by a first target value. However, as noted in applicant's remarks accompanying the Amendment After Final filed on July 10, 2006, Hämäläinen describes an arrangement for performing a transition to interfrequency handover when, for example, due to high interference, a mobile or base station is using its maximum power allocated for that particular user and more power is requested through the closed loop power control.

As explained in those remarks, closed loop power control has a well-defined meaning in the mobile communication art and, in particular, is directed to the measurement of signal-to-interference ratio (SIR) at the base station such that if the measured SIR is higher than a target SIR, the base station will command the mobile station to lower its transmitting power, and if the measured SIR is lower than the target SIR, it will command the mobile station to increase its transmitting power. Of course, such increasing can only be performed up to a maximum level and Hämäläinen describes a technique for performing an interfrequency handover when such a situation is observed. By so doing, a different frequency is used for communication between the base station and the mobile station which hopefully has better SIR characteristics than the previous frequency. Hämäläinen does disclose the use of slotted mode as a preparatory step for

taking measurements for the interfrequency handover, but Hämäläinen is silent with respect to the use of a first target value during continuous communication mode between the mobile station and the mobile communication system for determining the changing of the operation of the mobile station into the combined slotted communication mode and measurement mode for preparing an interfrequency handover, wherein that first target value depends on a second target value and wherein the second target value is related to an outer loop power control of a transmission power of the downlink signal; that is, the downlink signal between the mobile communication system and the mobile station.

The Office recognizes this deficiency in Hämäläinen when it states at the bottom of page 3 of the Official Action: "Hämäläinen fails to disclose the use of outer loop power control". The Office then goes on to state that in a similar field of endeavor, Park discloses the use of outer loop power control and that it would therefore be obvious to a person of ordinary skill in the art at the time of the invention to modify Hämäläinen with Park to include the above use of outer loop power control in order to maximize capacity. Applicant respectfully disagrees with this assertion for the reasons set forth below.

Park is directed to a power control method for a mobile station which has at least one compressed mode frame. As set forth in the Abstract of Park, a compressed mode frame includes a data transmission duration where data is transmitted at a first frequency and a data transmission-off duration where a second frequency is searched to perform an inter-frequency handoff to the second frequency. The transmission power during the data transmission duration is increased to compensate for the loss of transmission power during the data transmission-off duration and the method disclosed in Park is for the base station to set a power control threshold depending on the length of the data transmission-off duration. Thus, the base station receives transmission power-increased data from the mobile station and compares the received signal power of the data signal with the power control threshold. The base station generates a power-up command when the power control threshold is higher than the receiving power and generates a power-down command when the power control threshold is lower than the received signal power.

Thus, Park discloses a method in which the outer loop power control target is increased by an incremental amount (Δ_{target}) in a frame where compressed mode is used and inter-frequency handovers are made. In the present invention as claimed, SIR is compared to an outer loop target (first target value that depends on a second target value related to outer loop power control of a transmission power of the downlink signal) and used as a trigger for interfrequency handover and therefore compressed mode.

Thus, there is a significant difference between Hämäläinen and Park. In Park, the power control threshold is increased by a quantity (Δ_{target}) during the compressed mode frame so that the frame quality is insured (see column 4, lines 49-52 of Park) while in Hämäläinen, if a criterion (such as a serving base station apparently not responding to power control commands asking for more power) is fulfilled, a compressed mode is initiated. This is illustrated in Figure 6 of Hämäläinen where, depending upon one of several criterion being fulfilled, the slotted mode preparation with measurements for interfrequency handover is initiated (step 602). Thus, Park and Hämäläinen are different in the sense that in Park, the power control threshold is increased by some amount during the compressed mode frame so that frame quality is insured while in Hämäläinen, a measurement is compared to a criterion for determining whether to initiate compressed mode. There is no suggestion at all in Park or Hämäläinen of changing the operation of the mobile station from continuous communication mode to combined slotted communication mode and measurement mode depending upon a target being exceeded, where that target itself is related to outer loop power control of a transmission power of the downlink signal to the mobile station.

In short, it is difficult to understand how one of ordinary skill in the art would be motivated to add well-known outer loop control to interfrequency handover decision making as recited in claim 1 of the present application. The Office's rejection of claim 1 appears to be based on the combination of the mere use of outer loop power control as recited in Park directly to Hämäläinen which, as discussed in the background section of the present application, has many disadvantages as compared to the present invention.

The combination of outer loop power control in Park such as disclosed at column 9, lines 51-52 has nothing to do with any of the criteria used in Hämäläinen for determining when to initiate a slotted mode preparatory operation.

It is therefore respectfully submitted that there is no apparent motivation for combining Park with Hämäläinen in the manner as set forth in the Official Action with respect to claim 1. In fact, the technique in Hämäläinen is completely silent with regard to outer loop power control and does not require outer loop power control for its operation. There would therefore be no reason for using outer loop power control for adjusting a threshold associated with outer loop power control and to use that outer loop power control threshold for modifying a different threshold used in closed loop power control as set forth in Hämäläinen.

For all of the foregoing reasons, it is respectfully submitted that claim 1 is not invalid under 35 USC §103(a) in view of Hämäläinen in combination with Park.

Since claim 1 is believed to be not suggested by Hämäläinen in view of Park, it is respectfully submitted that claims 2, 5, 6 and 8-13 are also not suggested by Hämäläinen in view of Park since all of these claims ultimately depend from claim 1.

Similarly, independent method claim 24, independent mobile station claim 25, and independent mobile station claim 27 recite limitations similar to claim 1 and, for similar reasons, are believed to be not suggested by Hämäläinen in combination with Park.

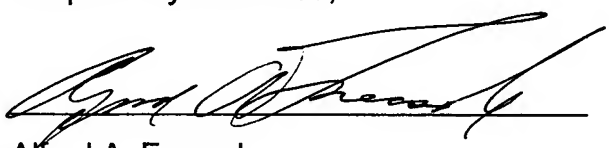
Furthermore, claims 3, 4 and 7 are believed to be not suggested by Hämäläinen in view of Park further in view of US patent application publication 2002/0126739, Tiedmann, Jr. et al, since each of these claims ultimately depend from claim 1 which is believed to be allowable.

Similarly, dependent claims 14-22 which ultimately depend from claim 1 and claim 26 which depends from claim 25 are believed to be not suggested by Hämäläinen in view of Park, further in view of US patent 6,081,714, Wakizaka, due to the fact that each of these claims depend from an independent claim which is believed to be distinguished over the cited art.

Finally, claim 23 which is rejected as obvious in view of Hämäläinen, further in view of Park, further in view of US patent 6,807,429, Subrahmanya, is believed to be allowable in view of its dependency from claim 1.

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance and reconsideration of same is respectfully requested.

Respectfully submitted,



Dated: February 7, 2007

Alfred A. Fressola
Attorney for Applicant
Registration No. 27,550

WARE, FRESSOLA, VAN DER SLUYS
& ADOLPHSON LLP
Bradford Green, Building Five
755 Main Street, P.O. Box 224
Monroe, CT 06468
Telephone: (203) 261-1234
Facsimile: (203) 261-5676
USPTO Customer No. 004955